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UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/888,541	06/26/2001	Motohiro Nakamaki	KYO-100	9359

7590	04/25/2005	

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EXAMINER
MILIA, MARK R

ART UNIT	PAPER NUMBER
2622	

DATE MAILED: 04/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-20* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on *26 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☒ None of:
        1.☒ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____ .
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
            application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *3/28/03*.
4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

DETAILED ACTION

Priority

1.   Acknowledgment is made of applicant's claim for foreign priority based on

applications filed in Japan on July 26, 2000 and May 28, 2001. It is noted, however,

that applicant has not filed a certified copy of the 2000-225180 or 2001-158815

application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to

non-statutory subject matter. Claim 19 is directed to a computer program. Such a claim

is non-statutory because the terminology "computer program" alone has no set

definition. A statutory product with descriptive material must include a positive recitation

of the computer readable medium, see MPEP 2106. Examiner suggests amending the

claims to read "A computer program embodied in a computer readable medium for

performing the steps of..." or "A computer readable medium storing a program for

performing the steps of..." or any other similar wording which best clarifies the claim

and includes a positive recitation of the computer readable medium. Examiner would

also like to point out that claim 20 is in the appropriate form and includes a positive

recitation of the computer readable medium, therefore suggestion is made to cancel

claim 19 in light of claim 20, which claims the same invention.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by
another filed in the United States before the invention by the applicant for patent or (2) a patent
granted on an application for patent by another filed in the United States before the invention by the
applicant for patent, except that an international application filed under the treaty defined in section
351(a) shall have the effects for purposes of this subsection of an application filed in the United States
only if the international application designated the United States and was published under Article 21(2)
of such treaty in the English language.

Claims 1-5 and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated

by U.S. Patent No. 6570605 to Kashiwazaki.

Regarding claim 1, Kasiwazaki discloses a printer comprising a receiving

buffer in which received print data and data are stored as received data in the order of

control receipt (see column 2 lines 44-45 and column 4 lines 25-36), an executing

section configured to read the received data from the receiving buffer in the order of

storage, and develop the received data into an image if the received data is the print

data and execute a control command if the received data is the control command of the

control data (see column 4 line 37-column 5 line 33), and a pre-processing section

configured to pre-read the received data stored in the receiving buffer before the

executing section reads them and, when a specific control command of the control data

from the pre-read received data is found, the pre-processing section executing a

procedure corresponding to the detected control command prior to the executing

section (see column 4 lines 40-43, column 4 line 58-column 5 line 3, column 5 lines 26-

28, and column 7 lines 7-13, reference shows that control data is read and executed

before execution of the print data).

Regarding claims 18-20, Kashiwazaki discloses a printer control method

and storage medium storing a program comprising the steps of storing received print

data and received control data as received data in a receiving buffer in the order of

receipt (see column 2 lines 44-45 and column 4 lines 25-36), reading the received data

out of the receiving buffer in the order of storage (see column 4 lines 44-46), developing

the print data into an image if the received data is the print data (see column 4 lines 44-

57), executing a control command if the received data is the control command of the

control data (see column 4 lines 40-43 and column 4 line 58-column 5 line 33), pre-

reading the received data stored in the receiving buffer prior to the reading them (see

column 4 lines 25-57), pre-executing procedure corresponding to a specific control

command prior to the executing it if the specific control command of the control data is

detected by the pre-reading (see column 4 lines 40-49 and column 5 lines 44-59,

reference shows that the control data is read and executed before the print data is

executed).

Regarding claim 2, Kashiwazaki discloses the system discussed in claim

1, and further discloses wherein the specific control command is a cancel command for

canceling the print based on the print data received prior to the specific control command (see column 5 lines 26-28), and when the pre-processing section finds the cancel command, the pre-processing section executes the cancel command prior to the executing section (see column 4 lines 25-43).

Regarding claim 3, Kashiwazaki discloses the system discussed in claim 2, and further discloses a read-out position changing section which functions, when the pre-processing section has executed the cancel command, such that the position in the receiving buffer for the executing section to read the received data is jumped to the position next to the cancel command (see Fig. 4, column 4 lines 40-46, and column 5 lines 39-64, reference shows that after a control data command, such as a cancel command, is executed the analyzer moves on to the next set of control and print commands).

Regarding claim 4, Kashiwazaki discloses the system discussed in claim 1, and further discloses a rewrite section which functions, when the pre-processing section has executed the specific control command of the control data, to rewrite a no-operation command into the portion of the executed control command in the receiving buffer (see Fig. 4, column 4 line 58-column 5 line 33, and column 5 lines 44-59, reference shows a plurality of control data commands, some of which do not actually result in an execution of a print job or cancel/interrupt/resume thereof, and therefore no operation needs to be executed upon the print data held in storage).

Regarding claim 5, Kashiwazaki discloses the system discussed in claim 1, and

further discloses wherein the printer has only one logic channel for receiving the print

data and the control data from a computer (see Fig. 2 (201) and column 4 lines 8-10).

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 6-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kashiwazaki as applied to claim 2 above, and further in view of U.S. Patent No.

6504619 to Kageyama et al.

Regarding claim 6, Kashiwazaki discloses a read-out task configured to read out

the receiving data from the receiving buffer (see column 4 lines 40-49) and a main task

configured to acquire the received data from the read-out task, the main task developing

the print data into the image when the received data is the print data and executing the

control command of the control data when the received data is the control data (see

column 4 line 40-column 5 line 33), the pre-processing section being realized by a pre-

read execute processing incorporated in the main task, which reads out the received

data from the receiving buffer, when the cancel command is found from the received

data, to cancel the print based on the print data received prior to the cancel command

(see column 4 lines 40-43 and column 5 lines 26-28 and 44-64).

Kashiwazaki does not disclose expressly a read-out pointer, which after output,

counts up the read-out pointer every time.

Kageyama discloses a read-out pointer, which after output, counts up the read-

out pointer every time (see column 9 lines 16-23 and column 10 lines 5-19 and 40-43).

Regarding claims 8 and 11, Kashiwazaki discloses a read-out task configured to

read out the receiving data from the receiving buffer (see column 4 lines 40-49) and a

main task configured to acquire the received data from the read-out task, the main task

developing the print data into the image when the received data is the print data and

executing the control command of the control data when the received data is the control

data (see column 4 line 40-column 5 line 33), the pre-processing section being realized

by assigning a pre-read task to the central processing unit in a predetermined order of

priorities and executing the pre-read task, the pre-read task reading out the received

data from the receiving buffer, when the cancel command is found from the received

data, to cancel the print based on the print data received prior to the cancel command

(see column 4 lines 40-43 and column 5 lines 26-28 and 44-64).

Kashiwazaki does not disclose expressly a read-out pointer, which after output,

counts up the read-out pointer every time.

Kageyama discloses a read-out pointer, which after output, counts up the read-

out pointer every time (see column 9 lines 16-23 and column 10 lines 5-19 and 40-43).

Regarding claims 7, 10, and 13, Kashiwazaki and Kageyama disclose the system discussed in claims 6, 8, and 11, and Kageyama further discloses wherein, if the cancel command has been detected by the pre-processing section, the read-out task moves the read-out pointer forward to the position next to the pre-read pointer (see column 9 lines 16-23 and column 10 lines 5-19 and 40-43).

Regarding claims 9 and 12, Kashiwazaki and Kageyama disclose the system discussed in claims 8 and 11, and Kashiwazaki further discloses wherein the priority of assignment of the processing unit to the pre-read task is lower than the priorities to the read-out task and the main task (see column 4 lines 40-57, reference shows that execution of the control command takes priority over the reading of new input data).

Kashiwazaki & Kageyama are combinable because they are from the same field of endeavor, print control utilizing print data control commands.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the use of pointers, which is well know in the art, to sequentially store and execute control and print data as shown by Kageyama with the system of Kashiwazaki.

The suggestion/motivation for doing so would have been to preserve the content of the command buffer and to reliably and accurately execute control and print commands (see column 6 lines 40-57 and column 9 lines 16-18 of Kageyama).

Therefore, it would have been obvious to combine Kageyama with Kashiwazaki to obtain the invention as specified in claims 6-13.

Claims 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Kashiwazaki as applied to claim 1 above, and further in view of U.S. Patent No.

6804016 to Hashimoto et al.

Regarding claim 14, Kashiwazaki does not disclose expressly wherein the

specific control command is a paper size designation command which designates a

particular paper size for printing the print data received subsequently to the paper size

designation command, the pre-processing section functioning upon detection of the

paper size designation command to determine beforehand whether the print on a sheet

of paper of the size designated by the paper size designation command is possible, and

functioning upon the print being impossible to inform a user of that fact.

Hashimoto discloses wherein the specific control command is a paper size

designation command which designates a particular paper size for printing the print data

received subsequently to the paper size designation command, the pre-processing

section functioning upon detection of the paper size designation command to determine

beforehand whether the print on a sheet of paper of the size designated by the paper

size designation command is possible, and functioning upon the print being impossible

to inform a user of that fact (see column 33 lines 2-15).

Regarding claim 15, Kashiwazaki discloses a display unit, which can inform a

user of various messages and information (see Fig. 10 and column 5 line 67-column 6

line 2).

Kashiwazaki does not expressly discloses wherein the pre-processing section

functions upon detection of the paper size designation command to determine

beforehand whether the printer has a paper tray of the size designated by the paper

size designation command and, if the printer has no paper tray of the size designated

by the paper size designation command, to inform a user of that fact, and to determine

beforehand whether the paper tray of the size designated by the paper size designation

command contains a sheet of paper and, if the paper tray of the size designated by the

paper size designation command has no paper, to inform the user of that fact.

Hashimoto discloses wherein the pre-processing section functions upon

detection of the paper size designation command to determine beforehand whether the

printer has a paper tray of the size designated by the paper size designation command

and, if the printer has no paper tray of the size designated by the paper size designation

command, to inform a user of that fact, and to determine beforehand whether the paper

tray of the size designated by the paper size designation command contains a sheet of

paper and, if the paper tray of the size designated by the paper size designation

command has no paper, to inform the user of that fact (see column 13 lines 34-42 and

column 33 lines 2-15).

Kashiwazaki & Hashimoto are combinable because they are from the same field

of endeavor, print control utilizing control commands.

At the time of the invention, it would have been obvious to a person of ordinary

skill in the art to combine the commands for detecting the presence/absence of paper

and paper size located in a printer input bin, which is well know in the art, as described

by Hashimoto, with the system of Kashiwazaki.

The suggestion/motivation for doing so would have been to increase productivity and print accuracy and decrease printer down time and printing stoppage and failure due to paper outages and paper size discrepancies.

Therefore, it would have been obvious to combine Hashimoto with Kashiwazaki to obtain the invention as specified in claims 14-15.

Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kashiwazaki and Hashimoto as applied to claim 14 above, and further in view of Kageyama.

Regarding claim 16, Kashiwazaki discloses a read-out task configured to read out the receiving data from the receiving buffer (see column 4 lines 40-49) and a main task configured to acquire the received data from the read-out task, the main task developing the print data into the image when the received data is the print data and executing the control command of the control data when the received data is the control data (see column 4 line 40-column 5 line 33), the pre-processing section being realized by a pre-read execute processing incorporated in the main task, which reads out the received data from the receiving buffer (see column 4 lines 40-43 and column 5 lines 26-28 and 44-64), and informing a user of various messages and information (see column 5 line 67-column 6 line 2).

Kashiwazaki does not disclose expressly a read-out pointer, which after output, counts up the read-out pointer every time and whether the print on a sheet of paper of the size designated by the paper size designation command is possible.

Hashimoto discloses whether the print on a sheet of paper of the size designated by the paper size designation command is possible (see column 33 lines 2-15).

Hashimoto does not expressly disclose a read-out pointer, which after output, counts up the read-out pointer every time.

Kageyama discloses a read-out pointer, which after output, counts up the read-out pointer every time (see column 9 lines 16-23 and column 10 lines 5-19 and 40-43).

Regarding claim 17, Kashiwazaki discloses a read-out task configured to read out the receiving data from the receiving buffer (see column 4 lines 40-49) and a main task configured to acquire the received data from the read-out task, the main task developing the print data into the image when the received data is the print data and executing the control command of the control data when the received data is the control data (see column 4 line 40-column 5 line 33), the pre-processing section being realized by assigning a pre-read task to the central processing unit in a predetermined order of priorities and executing the pre-read task, the pre-read task reading out the received data from the receiving buffer (see column 4 lines 40-43 and column 5 lines 26-28 and 44-64), and informing a user of various messages and information (see column 5 line 67-column 6 line 2).

Kashiwazaki does not disclose expressly a read-out pointer, which after output, counts up the read-out pointer every time and whether the print on a sheet of paper of the size designated by the paper size designation command is possible.

Hashimoto discloses whether the print on a sheet of paper of the size designated by the paper size designation command is possible (see column 33 lines 2-15).

Hashimoto does not expressly disclose a read-out pointer, which after output, counts up the read-out pointer every time.

Kageyama discloses a read-out pointer, which after output, counts up the read-out pointer every time (see column 9 lines 16-23 and column 10 lines 5-19 and 40-43).

Kashiwazaki, Hashimoto, & Kageyama are combinable because they are from the same field of endeavor, print control utilizing print data control commands.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the use of pointers, which is well know in the art, to sequentially store and execute control and print data as described by Kageyama with the commands for detecting the presence/absence of paper and paper size located in a printer input bin, which is well know in the art, as described by Hashimoto, with the system of Kashiwazaki.

The suggestion/motivation for doing so would have been to preserve the content of the command buffer and to reliably and accurately execute control and print commands (see column 6 lines 40-57 and column 9 lines 16-18 of Kageyama) and to increase productivity and print accuracy and decrease printer down time and printing stoppage and failure due to paper outages and paper size discrepancies.

Therefore, it would have been obvious to combine Kageyama with Kashiwazaki and Hashimoto to obtain the invention as specified in claims 16-17.

Conclusion

5.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. To further show state of the art refer to U.S. Patent numbers 6388760(Kadota et al.), 5768485 (Shimizu), 6285459 (Koakutsu et al.), 6441917 (Ikeda), 6567179 (Sato et al.), 6600569 (Osada et al.), and 6633395 (Tuchitoi et al.).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark R. Milia whose telephone number is (571) 272-7408. The examiner can normally be reached M-F 8:00am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Coles can be reached at (571) 272-7402. The fax number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark R. Milia
Examiner
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MRM

Joseph P. Pokrzywa
PRIMARY EXAMINER
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